Fig. 1 (Prior Art)

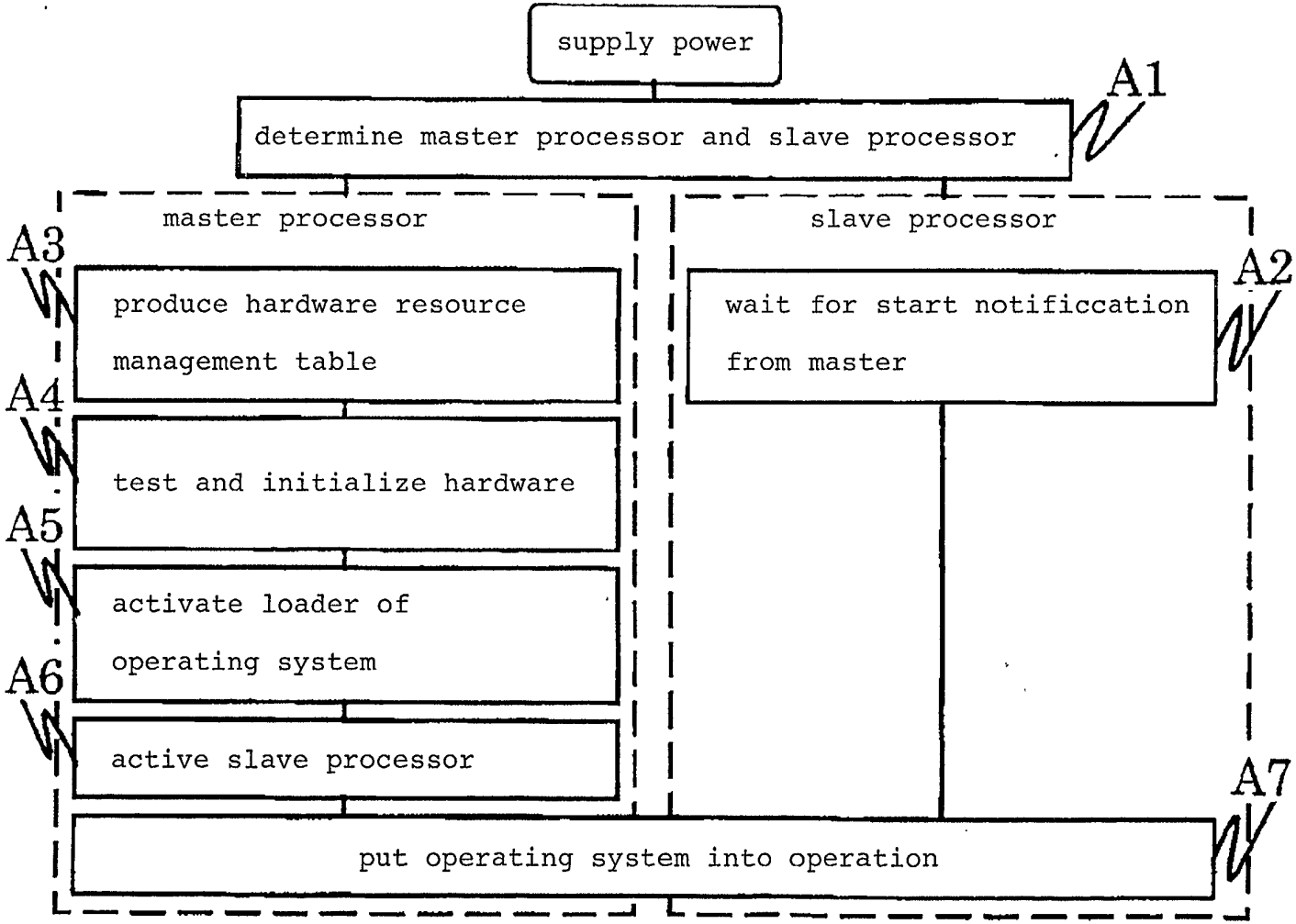


Fig. 2

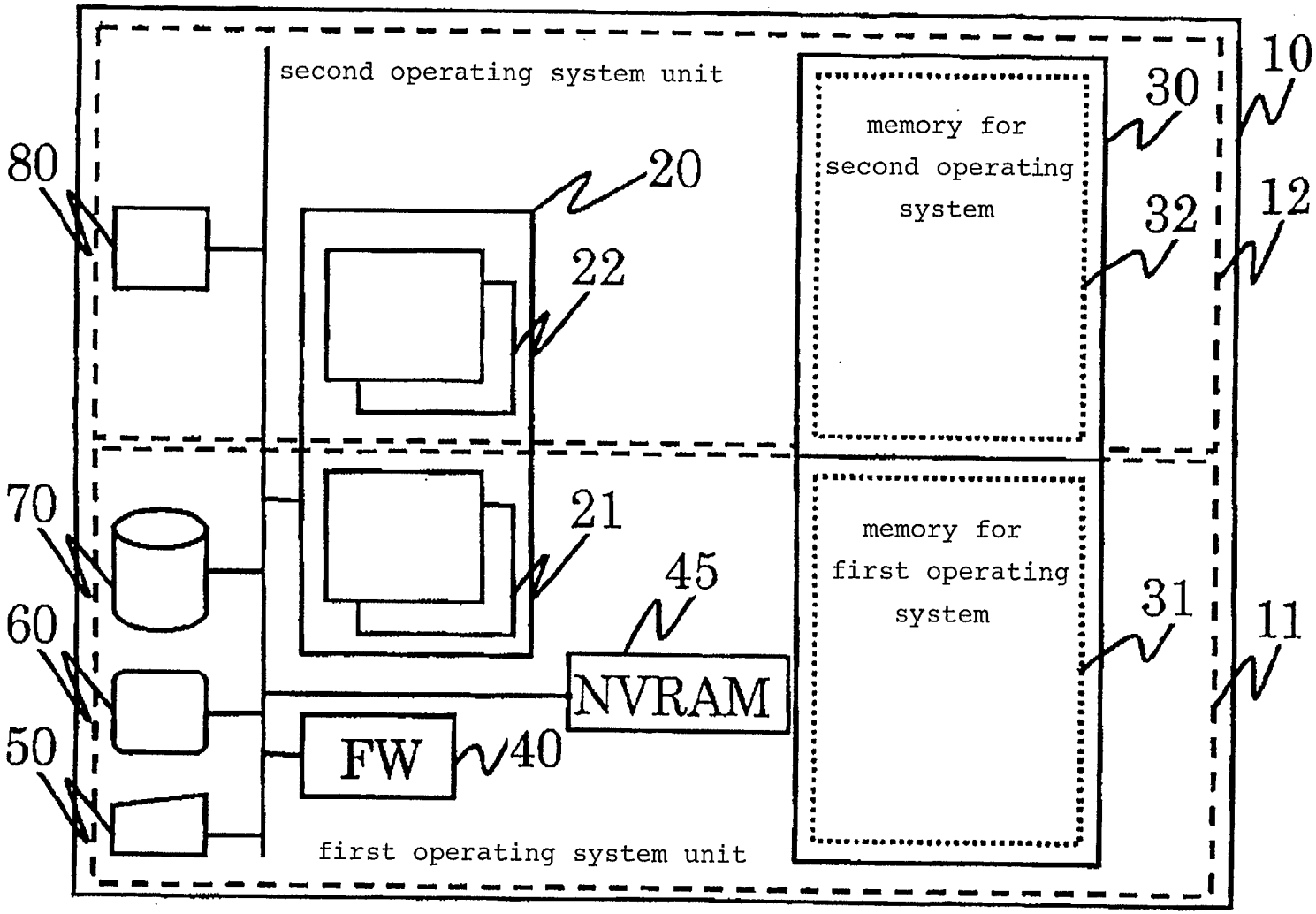

second operating system unit
80
20
22
10
30
memory for second operating system
32
12
70
21
45
60
NVRAM
31
11
50
FW
40
first operating system unit
memory for first operating system

Fig. 3

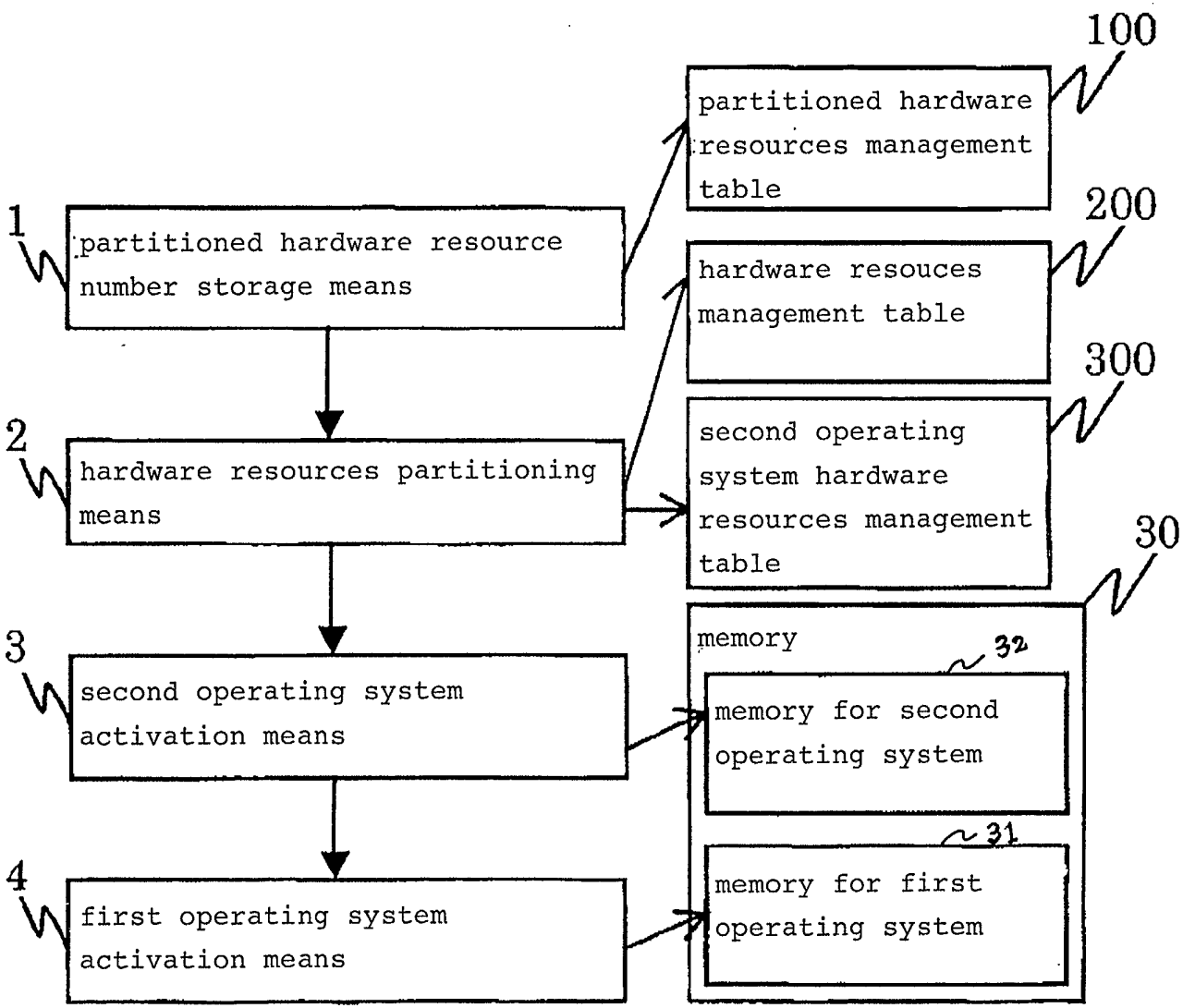

100
partitioned hardware resources management table
200
hardware resouces management table
300
second operating system hardware resources management table
30
memory
32
memory for second operating system
31
memory for first operating system
1
partitioned hardware resource number storage means
2
hardware resources partitioning means
3
second operating system activation means
4
first operating system activation means

Fig. 4

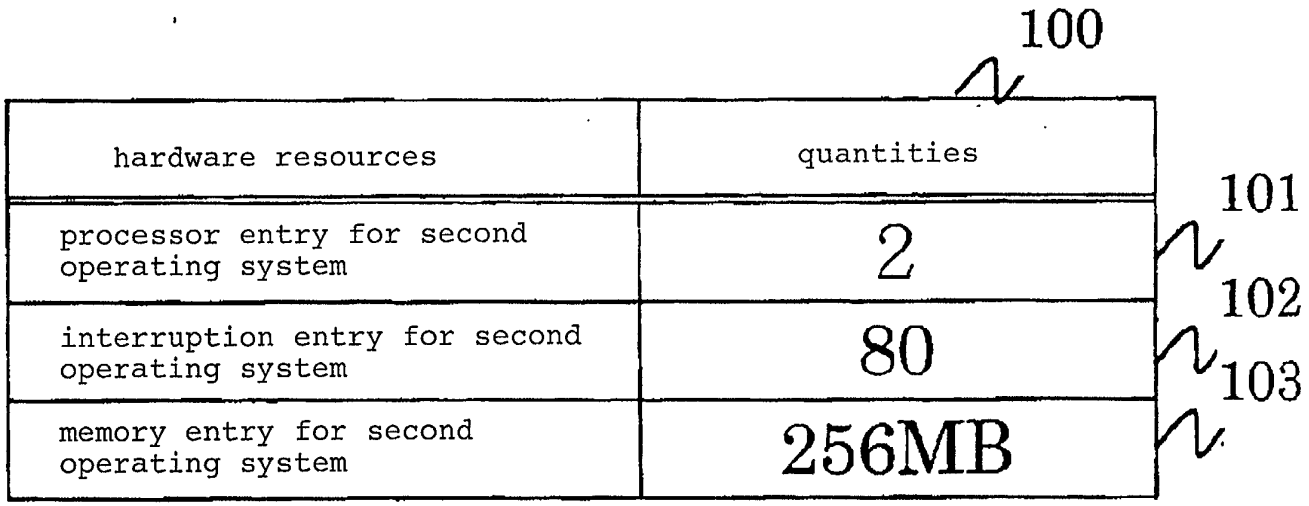

100
hardware resources
quantities
processor entry for second operating system
2
interruption entry for second operating system
80
memory entry for second operating system
256MB
101
102
103

Fig. 5

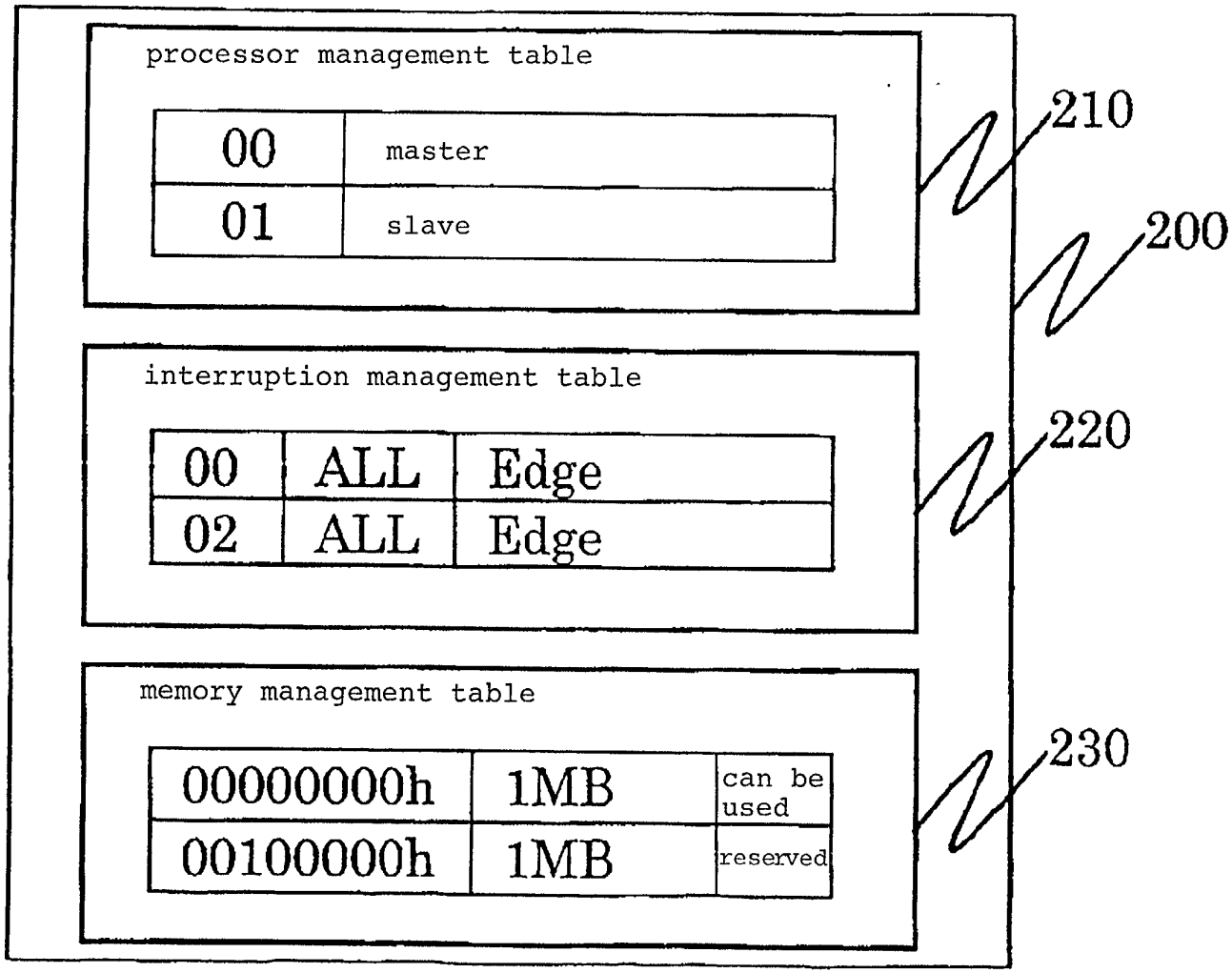

processor management table
00
master
01
slave
210
200
interruption management table
00
ALL
Edge
02
ALL
Edge
220
memory management table
00000000h
1MB
can be used
00100000h
1MB
reserved
230

Fig. 6

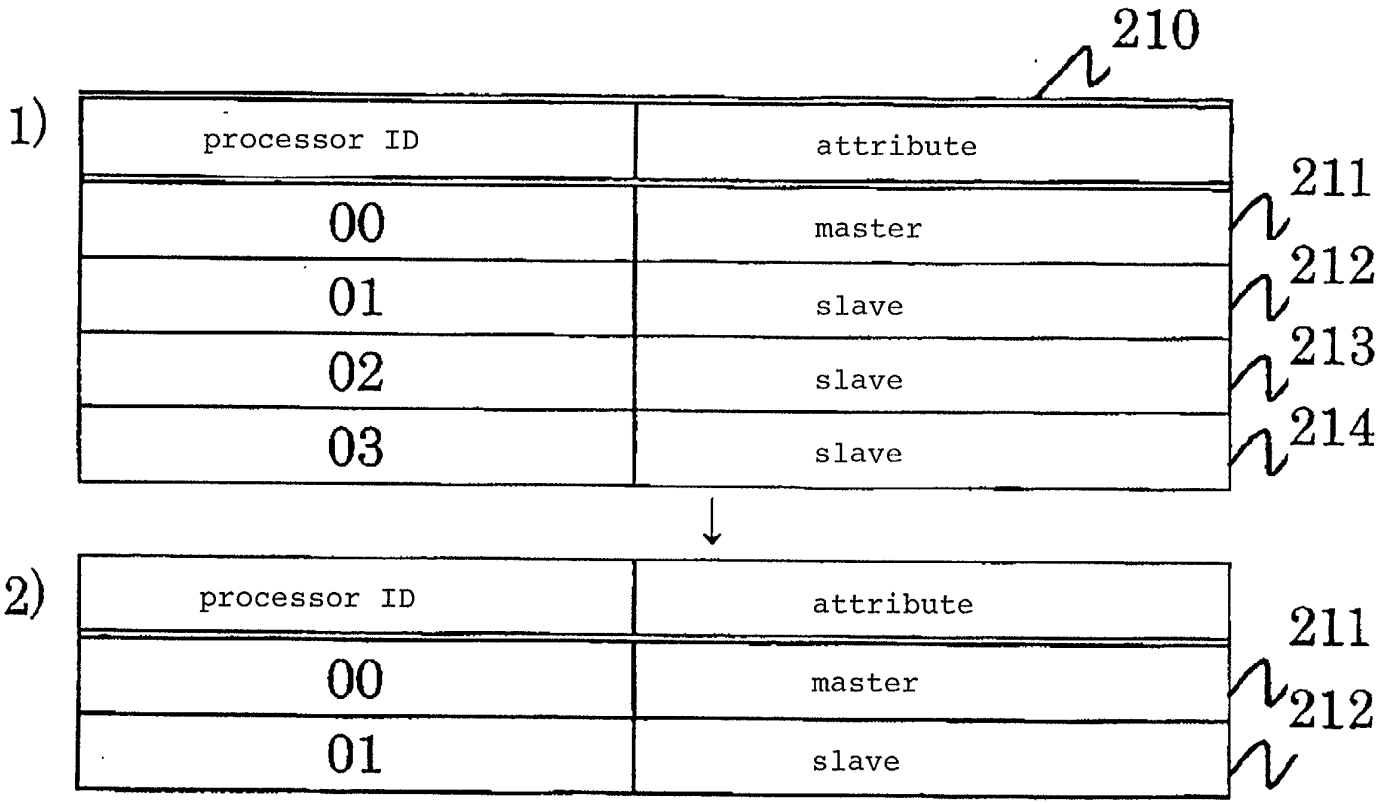

210
1)
processor ID
attribute
00
master
01
slave
02
slave
03
slave
211
212
213
214
2)
processor ID
attribute
00
master
01
slave
211
212

Fig. 7

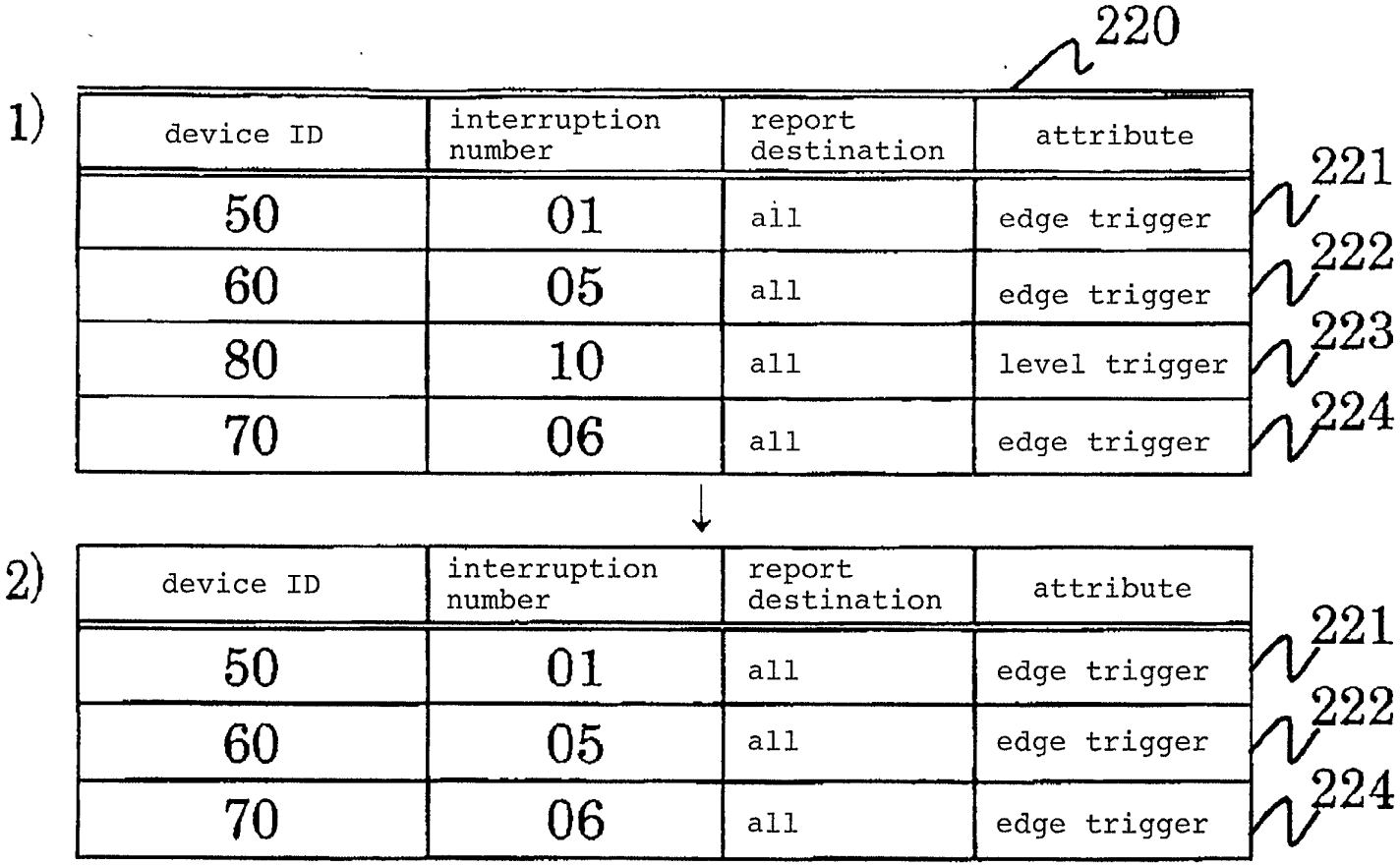

220
1)
device ID
interruption number
report destination
attribute
50
01
all
edge trigger
221
60
05
all
edge trigger
222
80
10
all
level trigger
223
70
06
all
edge trigger
224
2)
device ID
interruption number
report destination
attribute
50
01
all
edge trigger
221
60
05
all
edge trigger
222
70
06
all
edge trigger
224

Fig. 8

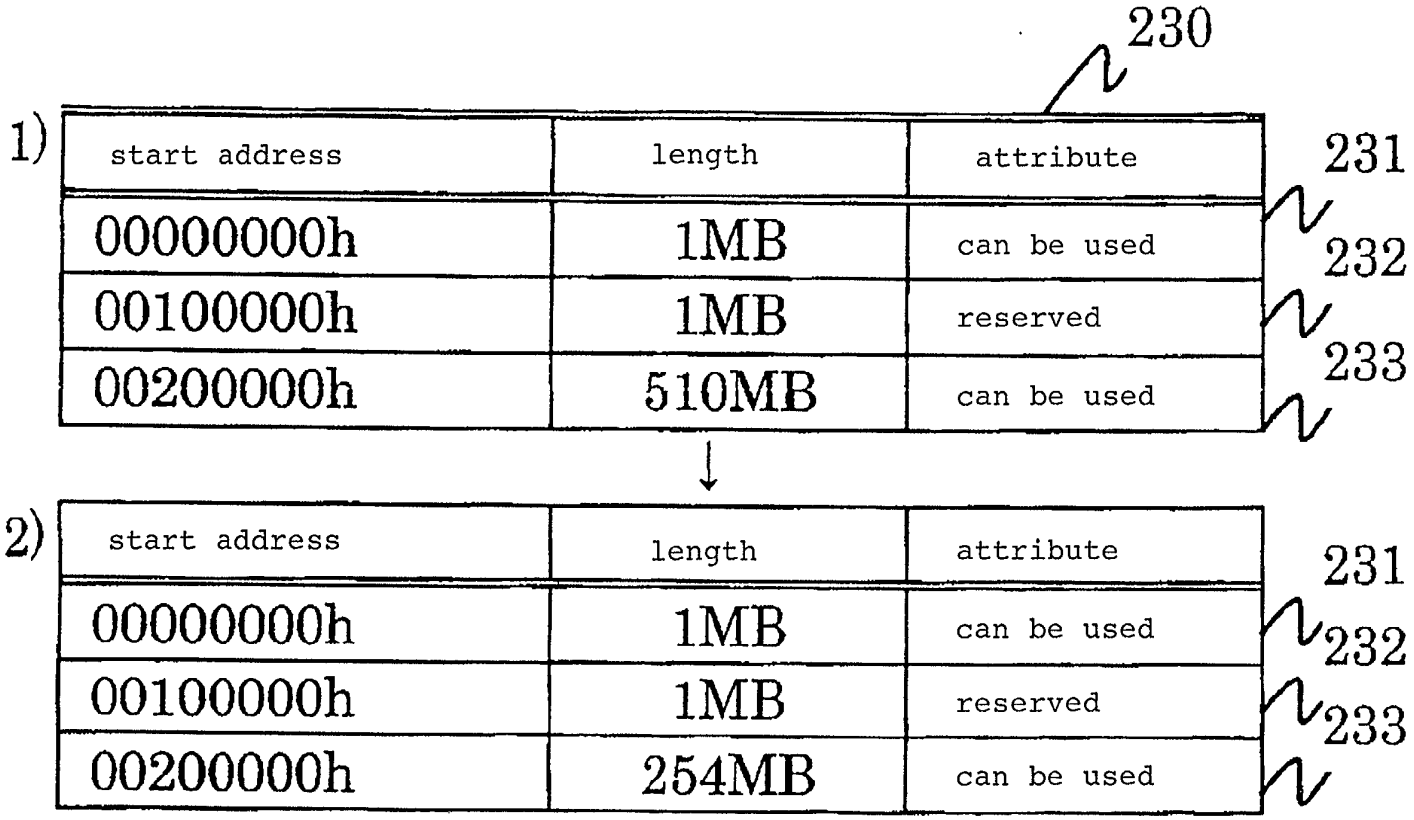

230
1)
start address
length
attribute
231
00000000h
1MB
can be used
232
00100000h
1MB
reserved
233
00200000h
510MB
can be used
2)
start address
length
attribute
231
00000000h
1MB
can be used
232
00100000h
1MB
reserved
233
00200000h
254MB
can be used

Fig. 10

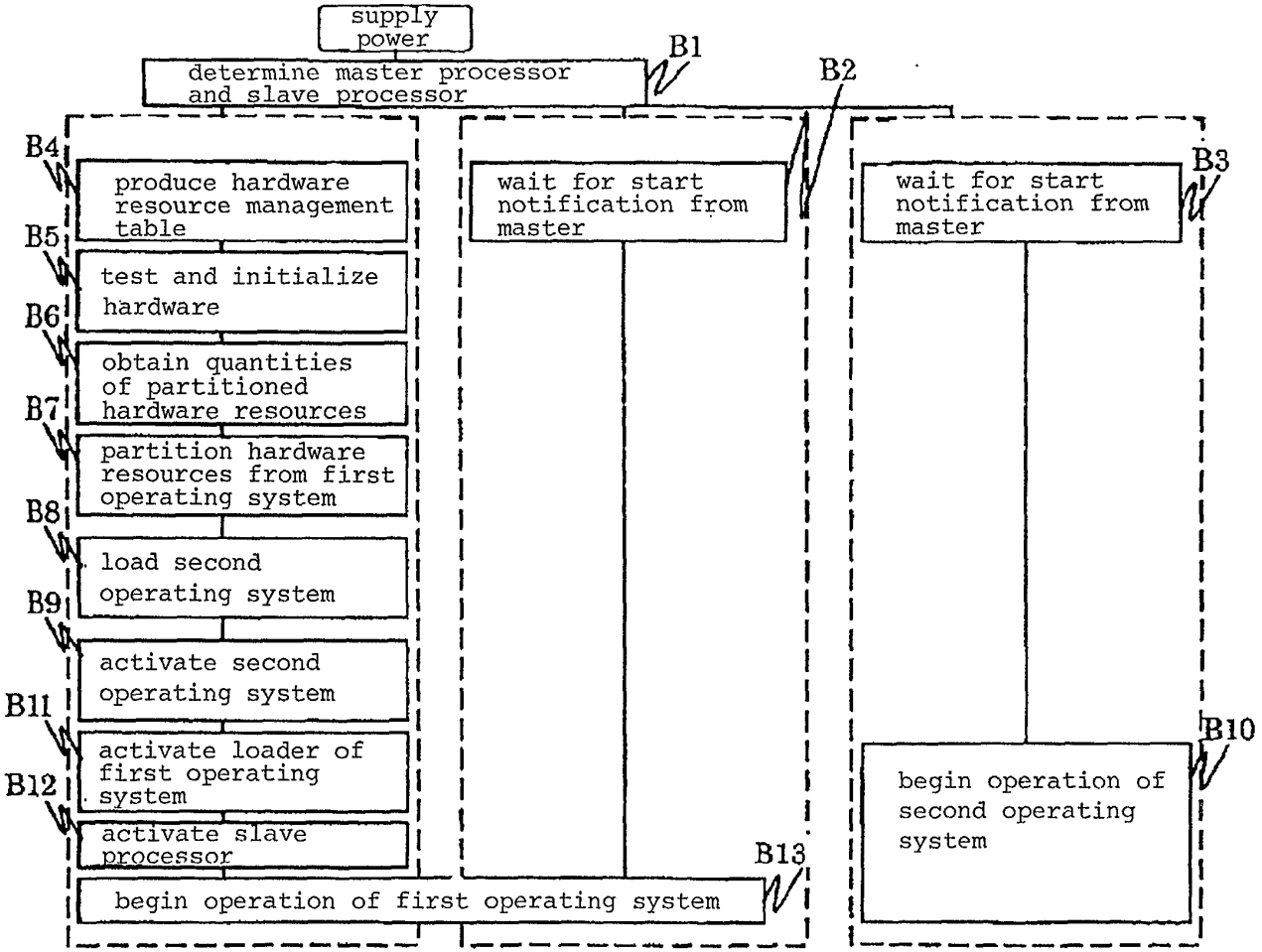

supply power
determine master processor and slave processor
B1
B2
B3
B4
B5
B6
B7
B8
B9
B10
B11
B12
B13
produce hardware resource management table
test and initialize hardware
obtain quantities of partitioned hardware resources
partition hardware resources from first operating system
load second operating system
activate second operating system
activate loader of first operating system
activate slave processor
wait for start notification from master
wait for start notification from master
begin operation of second operating system
begin operation of first operating system

Fig. 11

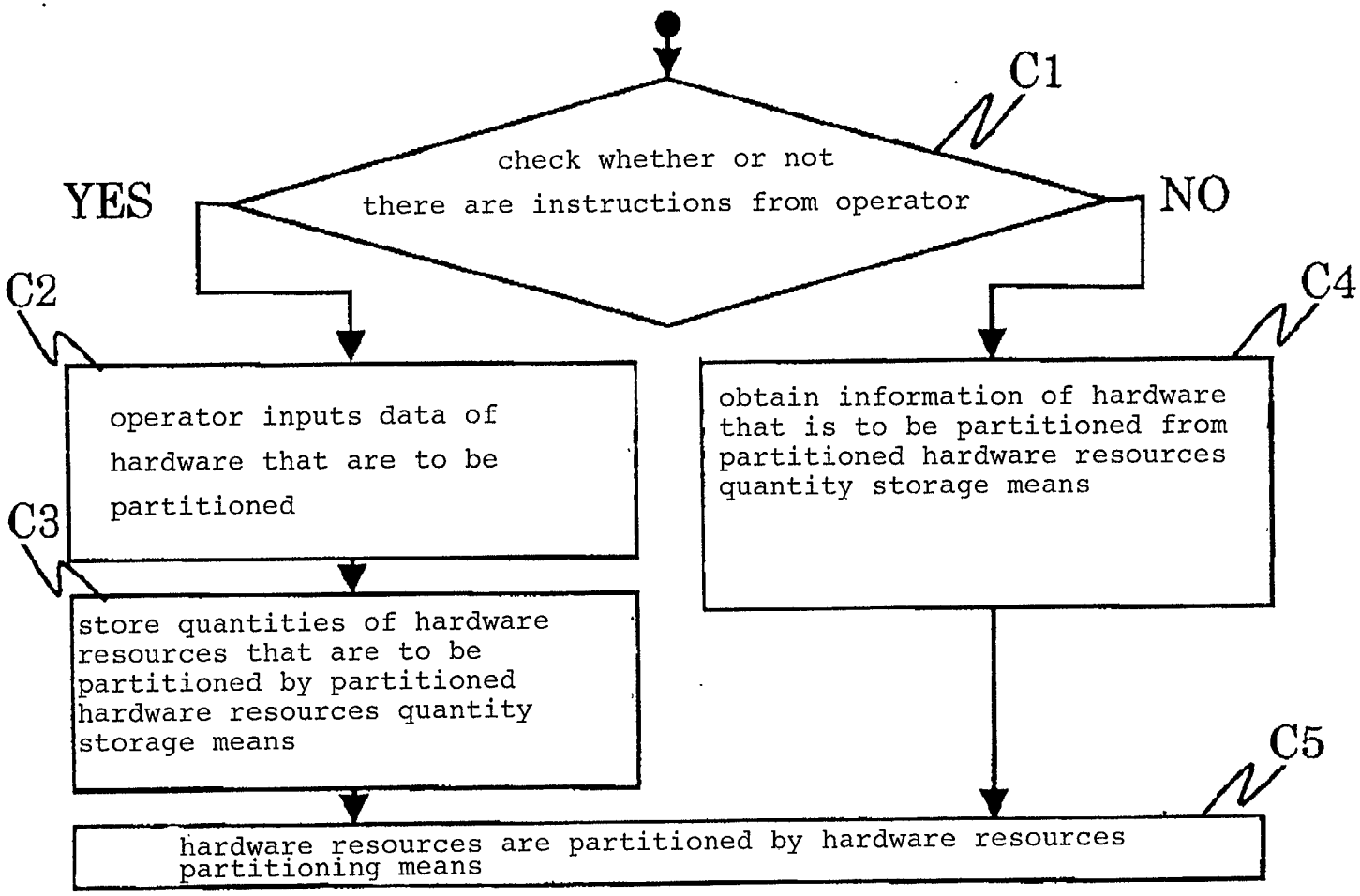

C1
check whether or not
there are instructions from operator
YES
NO
C2
operator inputs data of
hardware that are to be
partitioned
C3
store quantities of hardware
resources that are to be
partitioned by partitioned
hardware resources quantity
storage means
C4
obtain information of hardware
that is to be partitioned from
partitioned hardware resources
quantity storage means
C5
hardware resources are partitioned by hardware resources
partitioning means

Fig. 12

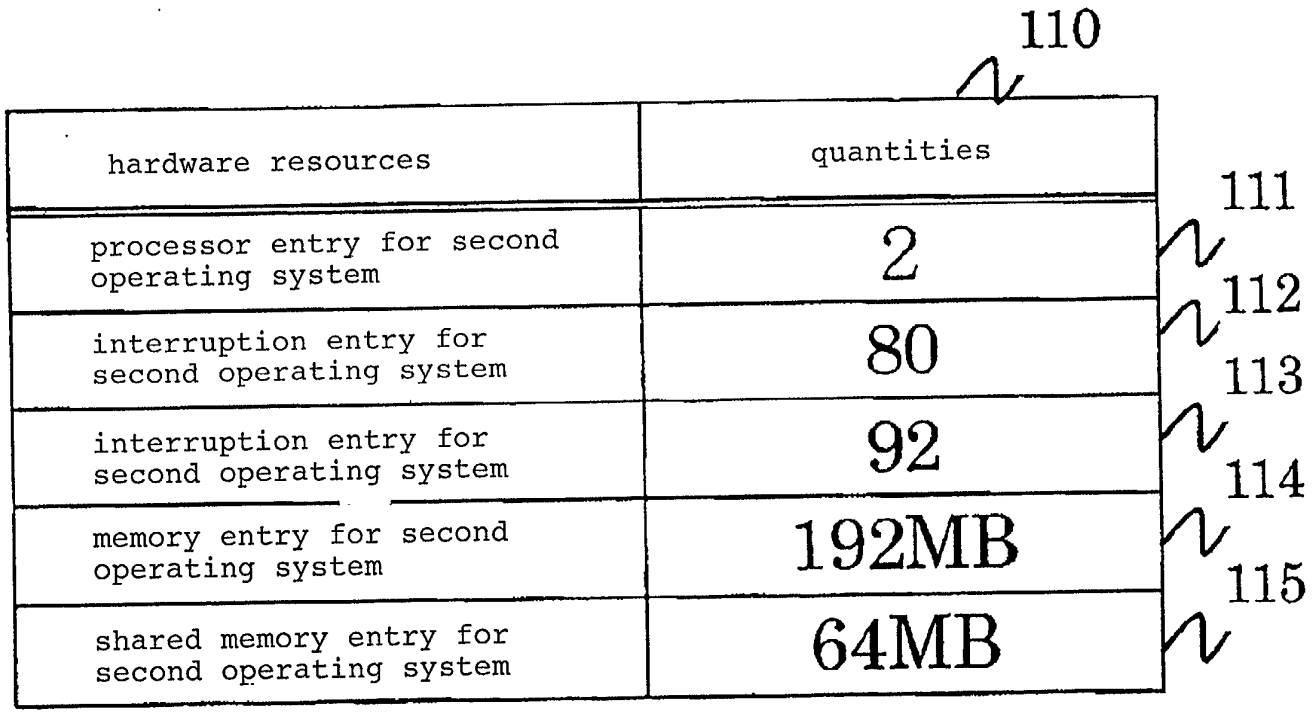

110
hardware resources
quantities
processor entry for second operating system
2
111
interruption entry for second operating system
80
112
interruption entry for second operating system
92
113
memory entry for second operating system
192MB
114
shared memory entry for second operating system
64MB
115

Fig. 13

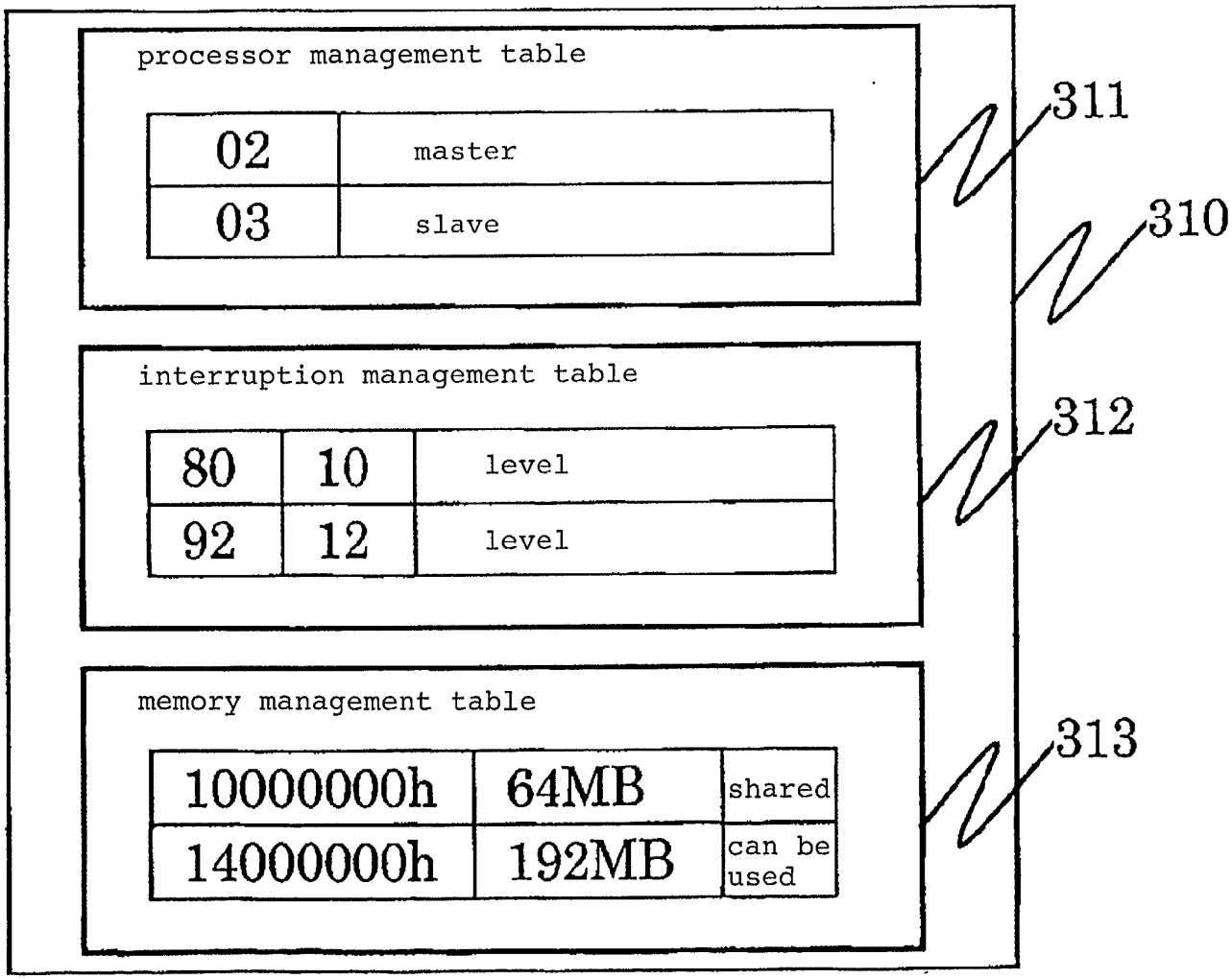

processor management table
02
master
03
slave
311
310
interruption management table
80
10
level
92
12
level
312
memory management table
10000000h
64MB
shared
14000000h
192MB
can be used
313

Fig. 14

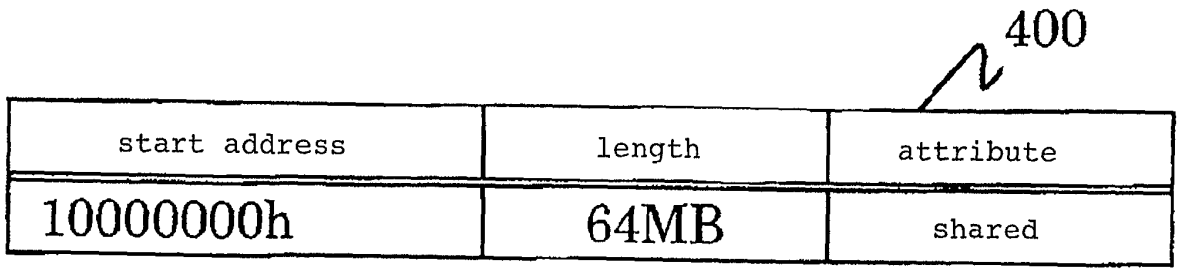


Fig. 15

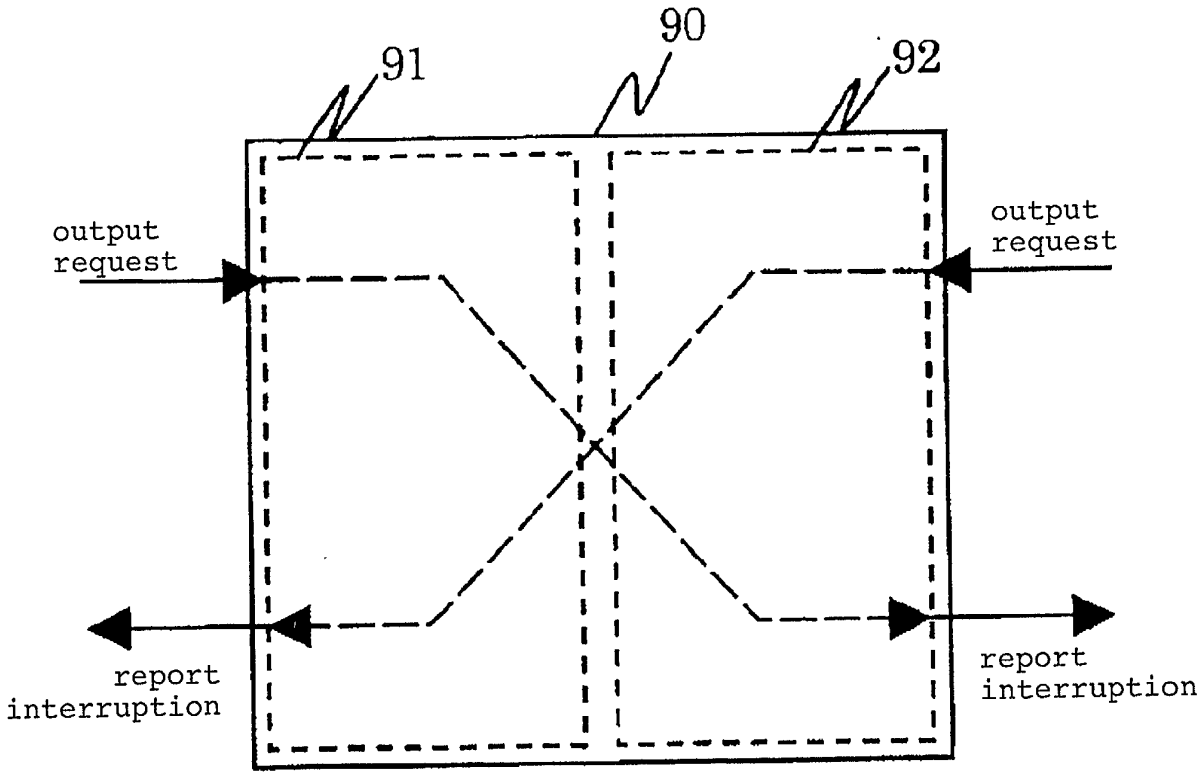

90
91
92
output request
output request
report interruption
report interruption

Fig. 16

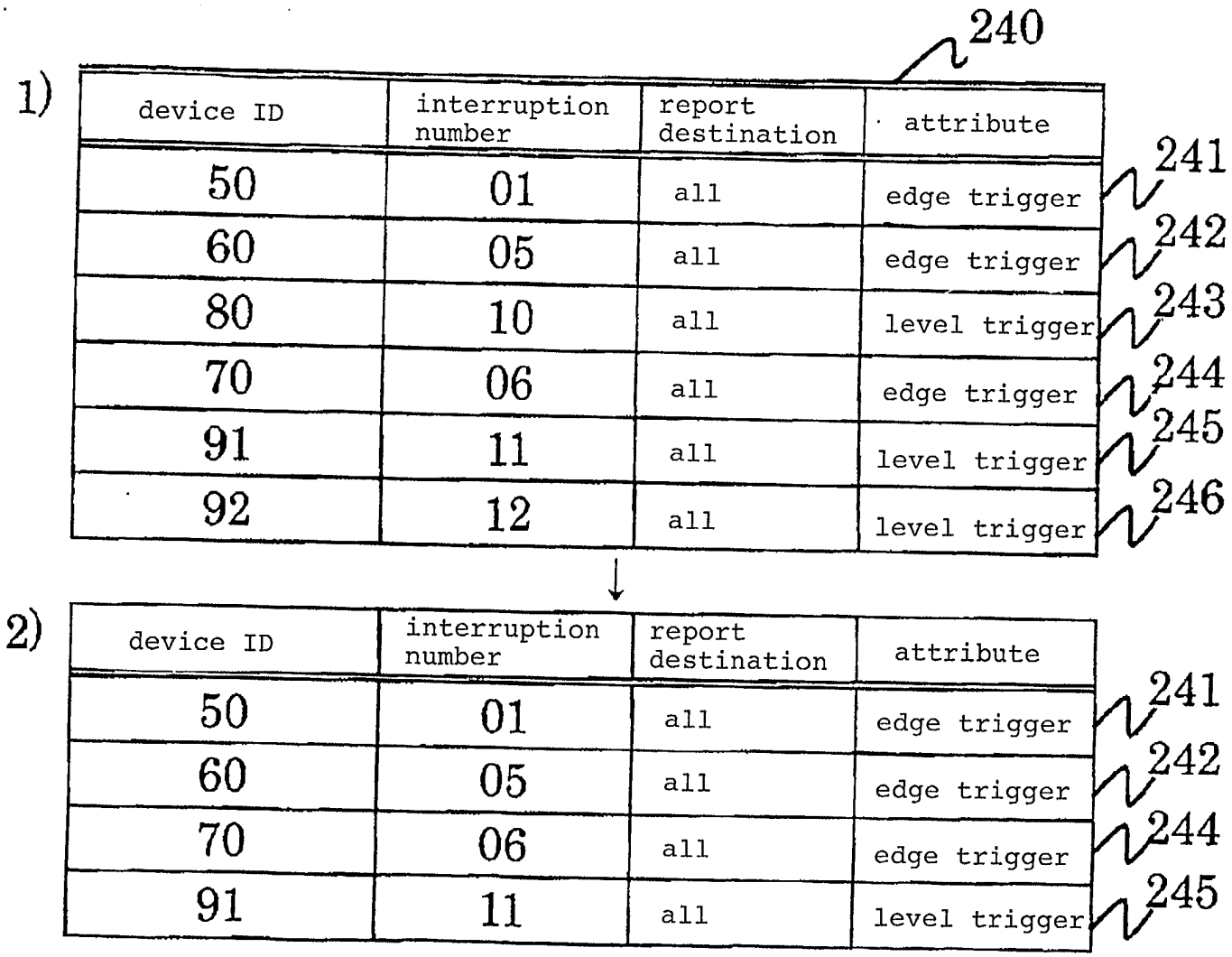

240
1)
device ID
interruption number
report destination
attribute
50
01
all
edge trigger
241
60
05
all
edge trigger
242
80
10
all
level trigger
243
70
06
all
edge trigger
244
91
11
all
level trigger
245
92
12
all
level trigger
246
2)
device ID
interruption number
report destination
attribute
50
01
all
edge trigger
241
60
05
all
edge trigger
242
70
06
all
edge trigger
244
91
11
all
level trigger
245

Fig. 17

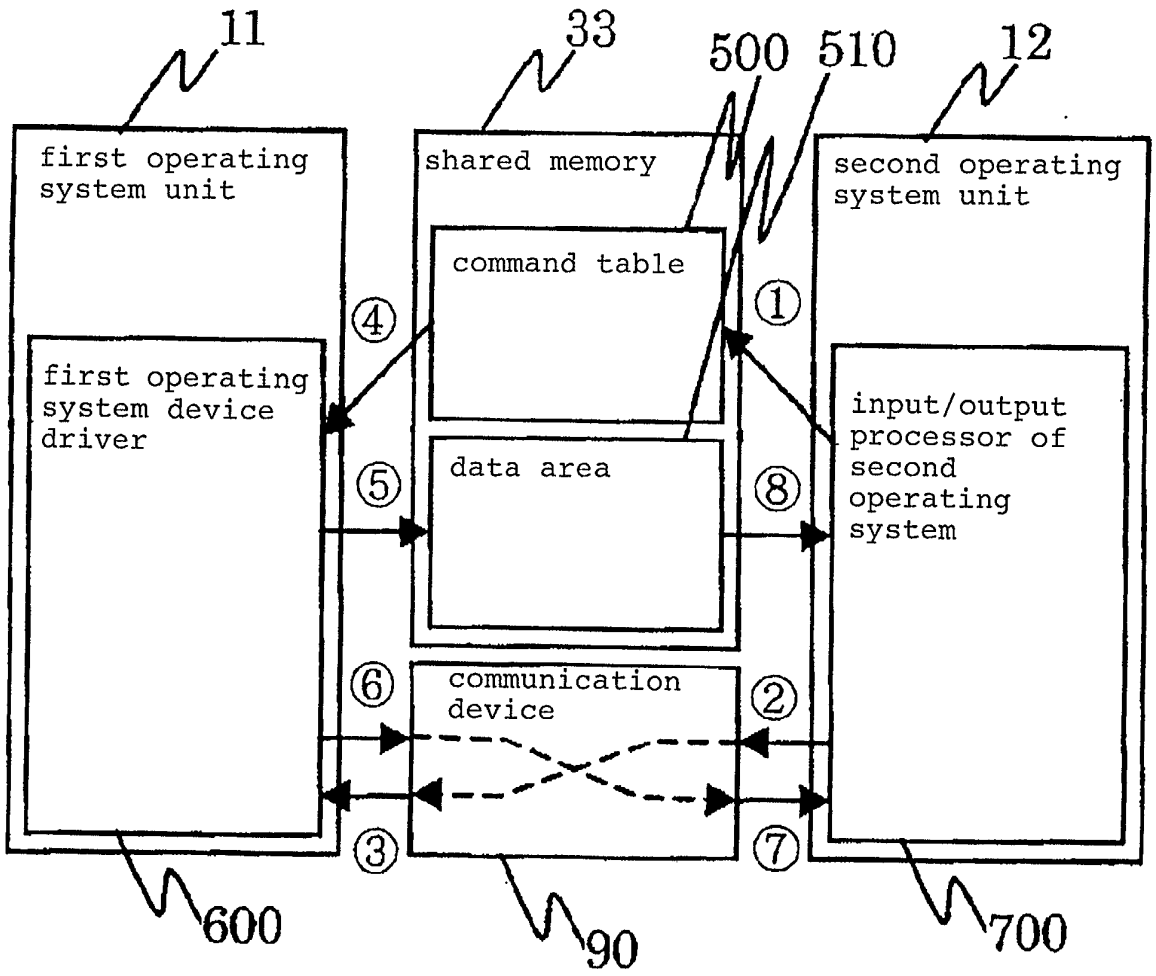
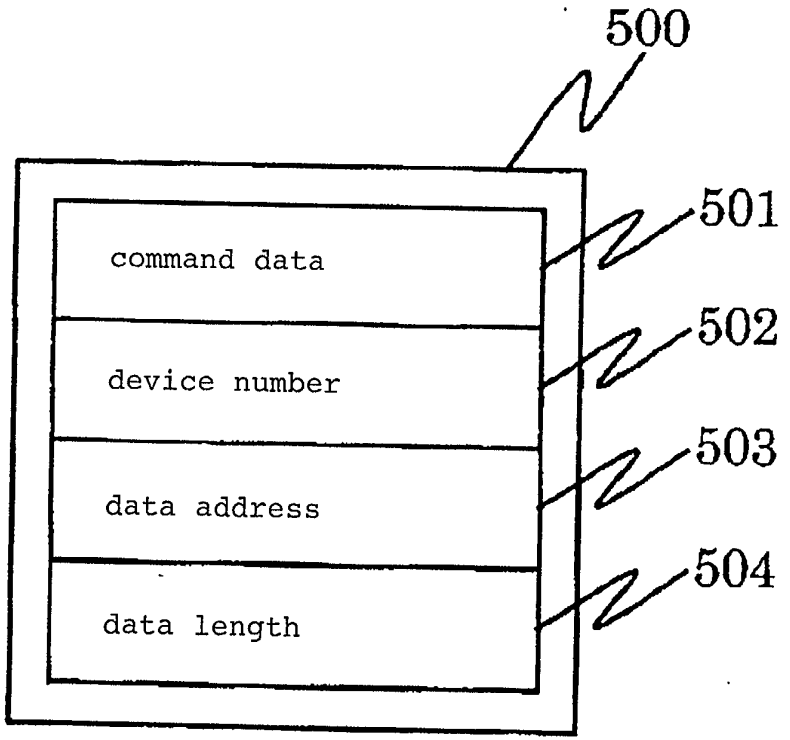

11
33
500
510
12
first operating system unit
shared memory
second operating system unit
command table
first operating system device driver
data area
input/output processor of second operating system
communication device
①
②
③
④
⑤
⑥
⑦
⑧
600
90
700

Fig. 18


500
command data
501
device number
502
data address
503
data length
504